

THE CARABIDAE OF BARKUDA ISLAND.

By H. E. ANDREWES.

I give below a list of some 36 species submitted to me for determination. I have not been able to put names to all of them, because, owing to the war, I have not yet had the opportunity of seeing various types in the Museums and collections on the continent. The Carabidae of Barkuda Island do not appear to offer any special features, and most of the species are widely spread through India and Ceylon. Perhaps the most interesting insect taken is the example of *Scarites terricola*, Bon., a northern form of which I have seen no other Indian specimens. A series of *Comsodiscus picturatus*, Andr., was taken, of which species only two other examples have hitherto been found elsewhere: nothing is yet known of its life-history or habits. I describe a new genus *Velinda* for an insect taken at Barkuda, of which by the same mail I received a second example taken by Mr. F. A. D'Abreu in the Central Provinces; it lives under bark and careful search will no doubt produce other examples.

1. *Oxylobus costatus*, Chaud.

Mon. des Scaritides, i, *Ann. Soc. Ent. Belg.* 1879, 134.

With the single exception of *O. dissors*, Tchitch. (on which further light is required), the genus is peculiar to India and Ceylon; the species are numerous and many are still undescribed. *O. costatus* is widely spread in India and is variable both in the amount of puncturation on the ventral surface, and specially so in the sculpture of intervals 2 and 4 of the elytra. These may form well developed ridges, like the other intervals, or they may be reduced, even to the extent of disappearing altogether. In the specimens before me these ridges are reduced but quite distinct, and the size of the insects is a little less than that of the type.

4 ex. (N. Annandale and F. H. Gravely).

2. *Scarites terricola*, Bon.

Obs. Ent. ii, 1813, 471; Chaud, Mon. des Scaritides, ii, *Ann. Soc. Ent. Belg.* 1880, 100.

Scarites arenarius, Bon., *Obs. Ent.* ii, 1813, 472.

„ *pacificus*, Bates, *Trans. Ent. Soc. Lond.* 1873, 238.

The occurrence of this well-known palaearctic species in sub-tropical India is very unexpected, but I have compared the example with specimens from China, Japan, and Southern Europe, and do not feel any doubt about the identification. The only other

record from India is given by Mr. P. Lesne (*Mission Pavie*, 1904, 63), who mentions "Pondicherry (*M. Maindron*). There are examples in the Indian Museum from Baluchistan, Nushki district (*E. Vredenburg*), and from both the Seistan Commission and the Baluchistan-Afghanistan Boundary Commission. The range of the species is from the Mediterranean basin, through Central Asia, to Japan.

1 ex. (*F. H. Gravely*).

3. *Scarites indus*, Oliv.

Ent. iii, 1795, 36, 9, t. 1, f. 2 a, b; Chaudoir, Mon. des Scaritides, ii, *Ann. Soc. Ent. Belg.* 1880, 102.

Scarites mancus, Bon., *Obs. Ent.* ii, 1813, 473.

The commonest Indian species of the genus.

3 ex. (*F. H. Gravely*).

4. *Clivina attenuata*, Herbst.

Nat. Ins. Käf. X, 1806, 264, t. 176, f. 7; Putzeys, Mon. des Clivina, *Mém. Liège* ii, 1846, 626 (sep. 108); *id.* Rév. Gén. des Clivinides, *Ann. Soc. Ent. Belg.* x, 1867, 110.

Common in the North, but not extending further South than the Central Provinces.

1 ex. (*F. H. Gravely*); 1 ex. (*N. Annandale*). "In nest of *Phidola rhombinoda*."

5. ? *Clivina lobata*, Bon.

Obs. Ent. ii, 1813, 481; *Dej. Sp. Gen.* i, 1825, 414; Putzeys, Mon. des Clivina, 599 (Sep. 81); *id.*, Rév. Gén. des Clivinides, 120.

The specimens which served as types to Bonelli and Dejean came from the same source, and Putzeys assumed that they belonged to the same species. As far as I am aware no entomologist dealing with this genus has examined Bonelli's type, and for the present this identification is doubtful. The supposed locality is Bengal. In addition to the example from Barkuda Island, there are in the Indian Museum collection 4 ex. from Orissa, Puri district, Balugaon (*N. Annandale*).

8 ex. (*F. H. Gravely*).

6. ? *Clivina mordax*, Putz.

Postscr. ad Cliv. Mon., *Mém. Liège* xviii, 1863, 67; *id.*, Rév. Gén. des Clivinides, 133.

This specimen agrees with others determined by Bates, but I have not seen the type, and Putzeys two exiguous descriptions are not very helpful. If the determination is correct, *C. mordax* is widely spread in the East.

1 ex. (*N. Annandale*).

7. *Clivina* sp.

I cannot identify this species at present.

2 ex. (*N. Annandale* and *F. H. Gravely*).

8. *Dyschirius* sp.

If described, only to be identified by comparison with Putzeys, types.

1 ex. (*F. H. Gravely*).

9. *Pogonus Biroi*, Cziki.

Ann. Mus. Hung. V, 1907, 574.

The only *Pogonus* described from India, as *P. hindustanus*, Motch. (*Bull. Mosc.* 1864, iii, 192) probably does not belong to the genus. I have not seen the type, which came from Bombay, but the specimens agree with the description, though the hind angles of the prothorax are very nearly right.

In addition to the specimens taken on Barkuda Island, there are others in the Indian Museum from "Chilka Survey Stations, Orissa, Puri District, Balugaon (*N. Annandale*), and Gauges delta, Sorabkatti (*Jenkins*).

3 ex., two of them "at light" (*F. H. Gravely*).

10. *Tachys ornatus*, Apetz.

Col. Brehm. 1854, 12.

Tachys orientalis, Nietn., *Ann. Mag. Nat. Hist.* (3), II, 1858, 425.

The species was described by Apetz from Upper Egypt, and Bates gives Yemen also as a locality. Nietner redescribed it from Ceylon, and I have seen examples from many parts of India. There are in the Indian Museum specimens from Bengal, Ranchi, and Orissa, Puri.

5 ex. (*F. H. Gravely*); 6 ex. (*N. Annandale*). "On damp mud at edge of puddle of rain-water."

11. *Tachys emarginatus*, Nietn.

Ann. Mag. Nat. Hist. (3), ii, 1858, 425.

A common species all over the East.

3 ex., all very dark (*F. H. Gravely*); 5 ex. (*N. Annandale*). "Taken with the preceding species."

12. *Craspedophorus bifasciatus*, Cast.

Et. Ent. 1835, 155; *Andr., Trans. Ent. Soc. Lond.* 1919, 126.

Epicosmus castelnaui, Chaud., *Mon. sur les Panagéides*, *Ann. Soc. Ent. Belg.* 1878, 112.

Hitherto recorded only from S. India and Ceylon, where it seems to be far from common.

3 ex. (*F. H. Gravely*).

13. *Callistomimus*, sp. nov.1 ex. (*N. Annandale*.)

A novelty which is interesting as combining some of the characters of *Callistomimus* and *Pristomachaerus*. Unfortunately only a single example has been discovered.

14. *Chlaenius henryi*, Andr.*Ann. Mag. Nat. Hist.* (9), iv, 1919, 11.

I described this species from a single example sent to me from Ceylon by Mr. G. M. Henry. I have since seen a specimen in the collection of the Brussels Museum taken at Barway by Père Cardon.

2 ex. "at light" (*N. Annandale* and *F. H. Gravely*).15. *Coleolissus*, sp. nov.

This species belongs to the group proposed by Bates (*Ann. Mus. Civ. Gen.* 1892, 339) for glabrous Eastern *Hypolithus*. There is only one example (♀), almost certainly undescribed, and the ♂ remains to be discovered.

1 ex. (*F. H. Gravely*).16. *Dioryche colombensis*, Nietn.*Journ. As. Soc. Beng.* 1857, ii, 151; *id. Ann. Mag. Nat. Hist.* (2), xx 1857, 373.

Generally distributed throughout India and Ceylon, but not elsewhere; I have, however, seen an example from the Maldivé Is. (*J. Stanley Gardiner*).

4 ex. "at light" (*N. Annandale* and *F. H. Gravely*).17. *Dioryche nagpurensis*, Bates.*Compt. rend. Soc. Ent. Belg.* 1891, 3291 ex. (*N. Annandale*.)

Common in Bengal, Chota Nagpur and Orissa.

18. *Dioryche chinnada*, sp. nov.

Length 7.5—8.0 mill.

Piceous: upper side aeneous, finely shagreened, under side with a faint green reflection; joints 1-2 of antennae and legs (except knees and tarsi) testaceous, last joint of labial and last two joints of maxillary palpi (except apex) fuscous.

Head (1.75 mill. wide) convex behind, flattened in front, front of clypeus bordered and strongly emarginate, suture fine, ending on each side in a fine point, eyes moderately prominent, antennae hardly reaching beyond base of prothorax, surface very finely and sparsely punctate.

Prothorax transverse (1.9×2.5 mill.), moderately convex, widest rather before middle, base rather wider than apex, sides gently rounded, not sinuate behind, hind angles obtuse, basal foveae moderately deep, surface faintly laterally strigose, finely and sparsely punctate, base closely punctate, with some minute longitudinal striae in the middle.

Elytra (2.9×4.5 mill.) rather flat, elongate, sides parallel, base strongly bisinuate, border forming a well-marked angle on shoulder, sides rather deeply emarginate before apex, striae clearly cut but not deep, impunctate, not becoming deeper near apex, scutellary striae very short, arising from an umbilicate pore, intervals flat, even ones much narrower than odd ones towards apex, 3, 5, and 7 seriate-punctate, the punctures rather large and conspicuous, 5 depressed near apex, marginal series interrupted in middle, surface finely punctate.

Rather larger than *D. nagpurensis* Bates and a little brighter in colour, femora testaceous, head finely punctured, base of prothorax much more finely punctate, elytra longer, more sharply angled at shoulder, alternate intervals similarly narrowed at apex, but flatter, serial pores larger. The species is also closely allied to *D. indochinensis* Bates, from Indo-China and Burma, but the colour of this latter species is a little cupreous, the elytra are much shorter and wider, and the serial pores even larger than in *D. chinuata*.

Madras: Ganjam Dist., Chilka Lake, Barkuda I. (*N. Annandale*), 1 ex. "at light". U. P., Gorakhpur 1 ex.

Bombay: Satara, Medha 1 ex., Ratnagiri, Pimpri, Rashishti Valley (*F. H. Gravely*), 1 ex.—Ind. Mus.

Madras (*Capt. W. Patton*), 2 ex.—Bombay Nat. Hist. Soc.

Bengal, Pusa, 1 ex. Bombay, Belgaum, 2 ex. C. P., Bilaspur, Janjgir, 1 ex. Madras, Coimbatore, 1 ex.—Agric. Res. Inst. Pusa.

Madras, Coimbatore, 1 ex.—Agric. Coll. and Res. Inst. Coimbatore.

C. P., Nagpur, Raipur Dist., Tumgaon (*E. A. D'Abreu*), many ex.—Centr. Mus. Nagpur.

Mysore State (*Dr. T. V. Campbell*), 1 ex.—E. A. Butler coll.

Pondicherry, 3 ex.—Oxford University Museum (Hope Dept.)

Bombay: Belgaum (type) (*H. E. Andrewes*), Kanara (*T. R. D. Bell*).

Madras, Bangalore, Malabar, Pondicherry, Bombay, Ceylon, Trincomali (*C. F. S. Baker*), 5 ex.—British Museum.

19. *Platymetopus rugosus*, Nietn.

Journ. As. Soc. Beng. 1857, ii, 150; *id.*, *Ann. Mag. Nat. Hist.* (2), xx, 1857, 373.

Generally distributed in India and Ceylon, but apparently uncommon.

7 ex. (*F. H. Gravely*, *N. Annandale*, and *Chilka Survey*).

20. *Platymetopus flavilabris*, F.

Suppl. Ent. Syst., 1798, 59.

Widely distributed in the East. I saw the type last autumn in Copenhagen, and my notes on this and other Fabrician species will appear in the *Transactions of the Entomological Society of London* for the current year.

1 ex. "at light" (N. Annandale).

21. *Barysomus semivittatus*, F.

Suppl. Ent. Syst., 1798, 59.

Spread over Southern China, Indo-China, India, and Ceylon, but nowhere common. There are other examples in the Indian Museum from Bengal, Orissa, and Ceylon.

2 ex. (N. Annandale).

22. *Harpalus advolans*, Nietn.

Journ. As. Soc. Beng. 1856, vi, 526.

Ann. Mag. Nat. Hist. (2), xix, 1857, 377.

I have not had the opportunity of examining Nietner's type; examples both from India and Ceylon which I have examined are darker and less aeneous than the description indicates, but otherwise agree with it fairly well.

1 ex. "at light" (N. Annandale).

23. *Amblystomus punctatus*, Bates.

Ann. Mus. Civ. Gen. 1892, 335; *id.*, *Ann. Soc. Ent. Belg.* 1892, 231.

Described by Bates from Bengal and Mandalay. I have seen examples from various parts of India, but not from Ceylon.

2 ex. (F. H. Gravely).

24. *Abacetus reflexus*, Chaud.

Essai monographique sur le genre Abacetus, *Bull. Mosc.* 1869, ii, 358.

I have seen a good many examples of this species from Central India, Nagpur (E. A. D'Abreu), and Bombay, Belgaum (H. E. Andrewes) and N. Kanara (T. R. D. Bell). Chaudoir's specimen came from "N. India."

1 ex. (F. H. Gravely).

25. *Abacetus antiquus*, Dej.

Spec. Gen. iii, 1828, 246; Chaud. *Mon.*, 391.

I have seen the type of this species in Mr. Oberthür's collection, but have no specimen for comparison. The examples from Barkuda Island agree fairly with my notes and my recollection. According to Chaudoir the species has been taken at Pondicherry, in Ceylon, and in Burma.

4 ex. (N. Annandale and F. H. Gravely).

26. *Abacetus*, sp. nov.

1 ex. "found together with young cockroaches in an ants' nest (*Camponotus* sp.)" (C. Dover).

27. *Morio orientalis*, Dej.

Sp. Gen. i, 1825, 432; Chaudoir, *Essai monographique sur les Morionides*, *Bull. Mosc.* 1880, ii, 338.

Widely distributed in the East. The species of this genus are very difficult to distinguish from each other, and I think too many have been described.

1 ex. (F. H. Gravely).

28. *Cosmodiscus picturatus*, Andr.

Ann. Mag. Nat. Hist. (9), V, 1920, 447.

The genus was formed for a species found in Queensland. In my recent paper I pointed out that a species from Japan (Lewis), described by Bates as *Stomonoxus platynotus* (*Trans. Ent. Soc. Lond.* 1873, 283), belonged actually to this genus, and further that the same species had lately been taken by Mr. H. Stevens in Sikkim. I have now received from Mr. T. G. Sloane—to whom we are indebted for the genus—two specimens taken by H. Fruhstorfer in Western Java (Mons. Gede and Pengalengan, both at 4000 feet), which also seem to be identical with Bates' species. By a curious chance I have within the last few days seen an example, belonging to Rev. J. A. O'Neil of Salisbury, Rhodesia, of a species taken in that locality and very closely allied to *C. picturatus*. The genus is evidently widely spread. In redescribing this genus I have said of the elytra "interval 3 impunctate." This is true of *C. rubripictus*, Sl. (*rubropictus* in error in the table of species) and *C. platynotus*, Bates, but not of *C. picturatus*, M., which has a well-marked setiferous pore on interval 3, adjoining stria 2, at a third from apex. The specimens of *C. picturatus* were taken both on Barkuda and Gopkuda Islands. The type came from Nagpur (E. A. D'Abreu), and I know of one other example in the Oxford University Museum (Hope Dept.).

11 ex. in all (N. Annandale and F. H. Gravely).

29. *Ophionea indica*, Thunb.

Nov. Spec. Ins. pt. iii, 1784, 68, f. 81; Andr., *Ann. Mag. Nat. Hist.* (9), III, 1919, 476.

Cicindela cyanocephala, F., *Suppl. Ent. Syst.* 1798, 60.

A very common species near water.

4 ex. (N. Annandale).

30. *Omphra complanata*, Reiche.

Ann. Soc. Ent. Fr. 1842, 342.

Omphra brevis, Chaud., *Bull. Mosc.* 1850, i, 36, *id.*, *Rev. et Mag. Zool.* 1872, 141.

I happen to have seen the types of both these species, which, as indicated by Chaudoir, are identical, so that I feel no doubt about the identification.

I have seen examples from various localities in India from Nepal to Madura, generally one at a time. There is an example from Ratnagiri in the Indian Museum.

2 ex. (*N. Annandale*). "Common in deserted termites galleries in dead wood."

31. *Omphra atrata*, Klug.

Jahrb. Ins. 1834, 72.

Many examples taken "with termites on path under dead leaves." I don't think this genus has been mentioned hitherto as having been found in association with termites. One or two specimens were also received in spirit, taken by Mr. Gravely in holes under stones, along with a number of oval whitish bodies (3.0 mm. in length), which show no structural characters and which may be the eggs of the beetle.

I have put a name to this species with hesitation, for I have not seen the type and the description leaves a good deal of room for doubt. The specimens agree fairly well, however, with one determined by Chaudoir as Klug's species.

Many ex. (*N. Annandale* and *F. H. Gravely*).

32. *Pheropsophus tripustulatus*, F.

Ent. Syst. i, 1792, 145.

A single example, which differs slightly from the type and seems to form a link with *P. curtus* Arrow (*Trans. Ent. Soc. Lond.* 1901, 204, t. 9, f. 3). From the type it differs only in the reduced apical patch on the elytra, from *curtus* in the absence of the dark frontal spot and also of the dark colour at the apex of the femora. It is quite possible that these forms may prove to be one species, which in that case would bear Fabricius' name. *P. tripustulatus* was said by its author to come from Siam, but the type bears no label to that effect; *P. curtus* was described from Malabar and N. Kanara.

1 ex. (*N. Annandale*).

33. *Orthogonius* sp.

This seems to be closely allied to *O. fugax*, Chaud., described from a single example taken by Nietner in Ceylon. Although numerous species of this genus have been described from the East, only about half a dozen of these came from India itself, and this represents only a fraction of those awaiting description.

3 ex. (*N. Annandale* and *Chilka Survey*).

34. *Coptodera transversa*, Schm. Goeb.

Faun. Col. Birm. 1846, 54.

Chaudoir has published a Monograph on this group, but I think that both he and Bates have misidentified some of the

species described by Schmidt-Goebel in his *Faunula Coleopterorum Birmaniae*.

* A fairly common species which is found from S. India to Hongkong. Specimens have been taken in the Nilgiri Hills (*H. L. Andrewes*) in a toad-stool, and others in the Forest Research Inst., Dehra Dun, were taken under *sál* bark.

2 ex. (*F. H. Gravely*). Dr. Gravely also took an example on Gopkuda Island.

35. ***Tetragonoderus quadrinotatus*, F.**

Suppl. Ent. Syst., 1798, 55.

A common Indian and Ceylon species.

1 ex. (*F. H. Gravely*).

***Velinda*, gen. nov.**

Ligula short, quadrate, bisetose at apex, paraglossae wanting (or completely fused with the ligula). Mentum wide, edentate, sinus wide and shallow, epilobes well developed, lobes rounded externally and bluntly pointed at apex. Maxillae curved, sharp, ciliate, stipes with two long setae on outer margin, one at base, the other at a third from apex. Maxillary palpi cylindrical, glabrous, last joint obliquely truncate at apex, two and a half times as long as penultimate; labials with penultimate joint widening from base to apex, bisetose, apical joint tapering at extremities, half as long again as penultimate. Mandibles short, curved, sharp, right one with a small tooth in middle and another at base. Antennae moniliform, pilose from 4 to apex, 1 wider and a little longer than 3, 2 half as long as 1, from 3 decreasing slightly in length towards apex, 11 a little longer than 10. Labrum short, sexsetose, a longitudinal ridge along median line, front margin arcuate; clypeus bisetose. Eyes moderately prominent. Head longitudinally striate. Prothorax cordate, side margin slightly angled at a fourth from apex, with a seta at angle, a pore visible at hind angle (seta probably abraded), base slightly produced in middle. Elytra truncate at apex, three tactile setae along each side margin, one behind shoulder, one behind middle, and one before the truncature. Apex of last ventral segment with two setae on each side. Fourth joint of tarsi entire, claws faintly dentate. Upper side (except head) shortly setose, under side glabrous.

Allied to *Dromius*, but in that genus the ligula is sexsetose, the antennae filiform, and the sculpture of the upper surface quite different.

36. ***Velinda lirata*, sp. nov.**

Length 3.75 mm. Width 1.30 mm. Piceous: prothorax dark red; antennae, buccal organs, a basal spot on each elytron, a common apical spot (just divided by the darker suture) and margin of elytra, sterna, median part of ventral surface, and legs testaceous; a transverse dark line in front of each ventral segment.

Head moderately wide, flat, closely punctate between the longitudinal wrinkles. *Prothorax* rather flat, very little wider than head, slightly emarginate in front, front angles quite rounded, sides very gently rounded, sinuate behind, hind angles slightly reflexed, projecting laterally, but rounded, owing to the oblique sides of base; median line fine but clear, surface dull, rugose, with indications of longitudinal striation along each side of median line. *Elytra* moderately shiny, parallel, half as long again as wide, striae very shallow, a row of fine setiferous punctures along the outer side of each stria; surface finally shagreened, front spot large, more or less quadrate, covering intervals 2—8, common spot behind transverse, reaching stria 4 on each side.

I am unable to compare this species with any other because I know none like it. Barkuda Island, 1 ex. (*F. H. Gravely*). Central Provinces: Bhandara district, Gothangaon 1 ex. (type) under bark of *Terminalia arjuna* (*E. A. D'Abreu*). Mr. D'Abreu has kindly allowed me to retain the type in my collection.